Volume 164 1986

Contents

Letters to the Editor

Tentative detection of the C_5H radical
Cernicharo, J., Kahane, C., Gómez-González, J., Guélin, M. L1

Laboratory detection of the C_5H radical
Gottlieb, C.A., Gottlieb, E.W., Thaddeus, P. L5

Eta Carinae as a possible multiple system
Davidson, K., Humphreys, R.M. L7

Radio asymmetry vs. size for quasars with different asymmetry types
Teerikorpi, P. L11

Supernovae of Type I b as off-center explosions in accreting white dwarfs?
Branch, D., Nomoto, K. L13

Synchrotron radiation in random magnetic fields
Crusius, A., Schlickeiser, R. L16

The pincushion cloud: the bipolar flows in L988
Clark, F.O. L19

Detection of CO (J = 1 − 0) in the dwarf elliptical galaxy NGC 185
Wiklind, T., Rydbeck, G. L22

Identification of quasi-stellar objects in the IRAS catalogue
Kidger, M.R., Beckman, J.E. L25

Gliese 866 – a double M dwarf
Leinert, C., Jahreiß, H., Haas, M. L29

Cosmology

Dirac's large-number hypothesis revised
Cetto, A., de la Peña, L., Santos, E. 1

Search for heavy antinuclei in the cosmic radiation
Lund, N., Rotenberg, M. 231

Extragalactic astronomy

The role of thermal conductivity in the evolution of the gas in clusters of galaxies
Friaça, A.C.S. 6

A two-color Tully-Fisher relation
Giraud, E. 17

The stars and gas in the region of N 63 A (LMC)
Laval, A., Greve, A., van Genderen, A.M. 26

The two-point-mass lens: detailed investigation of a special asymmetric gravitational lens
Schneider, P., Weiß, A. 237

(RN) Central CO emission in galaxies
Phillipps, S. 433

Galactic structure and dynamics

Photometric and chemical evolution of galaxies based on an evolutionary method of population synthesis
Arimoto, N., Yoshii, Y. 260

Stellar clusters and associations

The interstellar medium in the vicinity of the association Sco OB2
Cappa de Nicolau, C.E., Pöppel, W.G.L. 274

Formation, structure and evolution of stars

HD 32918: Ultraviolet spectrum and optical behaviour
Grewing, M., Bianchi, L., Cassatella, A. 31

Variable stars in the southern open cluster NGC 2516
Antonello, E., Mantegazza, L. 40

Non-local treatment of convection and overshooting from stellar convective cores
Langer, N. 45

The jet and energy source of HH 34
Reipurth, B., Bally, J., Graham, J.A., Lane, A.P., Zealey, W.J. 51

GX 339-4: EXOSAT observations in the off and soft states
Ilovaisky, S.A., Chevalier, C., Motch, C., Chiappetti, L. 67

Very high mass transfer rates in binaries containing low mass giants
de Kool, M., van den Heuvel, E.P.J., Rappaport, S.A. 73

Pseudo-spectral technique applied to numerical solutions for stellar collapse
Bonazzola, S., Marck, J.-A. 300

Stellar atmospheres

Acceleration potential and angular momentum of undamped MHD-waves in stellar winds
Marsch, E. 77

Radiation-driven winds of hot luminous stars. Improvements of the theory and first results
Pauldrach, A., Puls, J., Kudritzki, R.P. 86

Titanium oxide emission in the spectrum of VY Canis Majoris in December 1983
Wallerstein, G. 101

CCD spectropolarimetry of a sample of cool variable stars
Boyle, R.P., Aspin, C., Coyne, G.V., McLean, I.S. 310

The relationship of the variable stars AG Car and HDE 269852 to the Ofpe/WN 9 objects
Stahl, O. 321

(RN) The LMC-S Dor variable R 71: an IRAS-point source
Wolf, B., Zickgraf, F.-J. 435

Diffuse matter in space (including HII regions and planetary nebulae)

Infrared objects near H_2O masers in regions of active star formation. IV. Molecular hydrogen observations
Oliva, E., Moorwood, A.F.M. 104

Detailed analysis of the ISM toward ζ Oph and 9 Sgr
Pwa, T.H., Pottasch, S.R. 116

Physics and chemistry of interstellar polycyclic aromatic molecules
Omont, A. 159

The abundance of phosphorus in the interstellar medium
Dufton, P.L., Keenan, F.P., Hibbert, A. 179

Abundances in the planetary nebula BD + 30° 3639
Pwa, T.H., Pottasch, S.R., Mo, J.E. 184

The structure and dynamics of evolved supernova remnants. The IC 443 complex
Braun, R., Strom, R.G. 193

The structure and dynamics of evolved supernova remnants. Shock-heated dust in the Cygnus Loop
Braun, R., Strom, R.G. 208

Measurement of magnetic-field strengths in molecular clouds: detection of OH-line Zeeman splitting
Kazès, I., Crutcher, R.M. 328

Dynamical friction between the ISM and the system of stars
Just, A., Kegel, W.H., Deiss, B.M. 337

NH_3 observations of the GGD 12–15 and NGC 7129 dense cloud cores
Güsten, R., Marcaide, J.M. 342

A molecular survey of three dark clouds in Taurus
Duvert, G., Cernicharo, J., Baudry, A. 349

An extended, high speed, ionized flow in the vicinity of a Herbig-Haro-like knot (M42-HH2) in the core of the Orion nebula (NGC 1976)
Meaburn, J. 358

The Sun

The possibility of solar-drift-pair-burst generation near the plasma frequency
Levin, B.N. 218

Transition zone effects on thermal non-equilibrium and plasma condensation in solar coronal loops
She, Z.S., Malherbe, J.M., Raadu, M.A. 364

Energy balance in solar corona from 1.1 to 1.6 $R_\odot$ heated through magnetic accelerated regions
Narain, U., Kumar, M. 373

Dynamical model of the interaction between the magnetic field and the mass motions in solar active regions
Berton, R. 377

Evidence for global pressure oscillations in Procyon and α Centauri
Gelly, B., Grec, G., Fossat, E. 383

A search for gold in the Sun
Youssef, N.H. 395

The solar system

(RN) Radio continuum observations of comet Halley
Altenhoff, W.J., Huchtmeier, W.K., Schmidt, J., Schraml, J.P., Stumpff, P., Thum, C. 227

Analysis of a dirty water-ice model for cometary dust
Mukai, T. 397

Celestial mechanics and astrometry

Analysis of observations of the Sun with the astrolabe (Text in French)
Journet, A 222

The improvement of the orbit of a visual double star (Text in French)
Soulié, E.J. 408

Erratum: Secular terms of classical planetary theories using the results of general theory
Laskar, J. 437

Physical and chemical processes

Oscillator strengths of transitions between low-lying levels in the aluminum spectrum
Buurman, E.P., Dönszelmann, A., Hansen, J.E., Snoek, C. 224

The scintillation theory of eclipse shadow bands
Codona, J.L. 415

Instruments, data processing, and computational methods

Circle scanning systems of the U.S. Naval Observatory
Rafferty, T.J., Klock, B.L. 428